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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,745	12/24/2003	Shigekazu Yasuoka	SNY-048	9090
20374	7590	03/28/2007		
KUBOVCIK & KUBOVCIK SUITE 710 900 17TH STREET NW WASHINGTON, DC 20006			EXAMINER ROE, JESSEE RANDALL	
			ART UNIT	PAPER NUMBER
			1742	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/28/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/743,745

Applicant(s)

YASUOKA ET AL.

Examiner

Jessee Roe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 December 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☒ Claim(s) 1 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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**DETAILED ACTION*****Status of Claims***

Claims 1-25 are remain for examination wherein claims 1 and 13 are amended.

***Claim Objections***

Claims 1 and 13 are objected to because of the following informalities: "that" should be replaced by "than". Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 13 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaneko (US 5,964,968).

In regards to claims 1, 5, 13 and 17, Kaneko ('968) discloses a hydrogen absorbing alloy that would be used for a battery with a formula of the form

$\text{La}_{0.23}\text{Ce}_{0.46}\text{Pr}_{0.05}\text{Nd}_{0.18}\text{Mg}_{0.08}\text{Ni}_{3.38}\text{Al}_{0.19}\text{Co}_{0.5}\text{Mn}_{0.47}\text{Fe}_{0.02}$  (abstract and col. 6, lines

25-32 and 48-49), wherein  $1-x$ , in the formula  $\text{Ln}_{1-x}\text{Mg}_x\text{Ni}_{y-a}\text{Al}_a$  (sum of

subscripts of La, Ce, Pr and Nd) = 0.92;  $x = 0.08$  (subscript of Mg);  $a = 0.19$

(subscript of Al);  $y-a = 3.38$  (subscript of Ni); and therefore  $y = 3.57$ , which would

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be within the limitations of  $0.05 \leq x < 0.20$ ,  $2.8 \leq y \leq 3.9$ , and  $0.10 \leq a \leq 0.25$  and the mole ratio of Lanthanum/Total Rare Earth Elements would be 0.23:0.92 or 0.25 which satisfies the limitation of being not greater than 0.5. The hydrogen absorbing alloy would also comprise Fe, Co and Mn as shown above.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4, 6-12, 14-16 and 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US 5,964,968).

In regards to claims 2 and 14, Kaneko ('968) discloses a hydrogen absorbing alloy that would be used in a battery as shown above. However, Y would not be included in the composition listed above. Kaneko ('968) discloses a substantially similar alloy substituting Y for Mg and that the L in the formula  $(R_{1-x}L_x)(Ni_{1-y}M_y)_z$  stands for Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Sc, Mg, Ca, or mixtures thereof (col. 3, lines 28-48, col. 6, lines 44-45 and col. 6, lines 48-49). Therefore, it would be expected that any amount of Y may be substituted for any amount of Mg. See MPEP 2144.06.

In regards to claims 3-4 and 15-16, Kaneko ('968) discloses a hydrogen absorbing alloy that would be used in a battery as shown above. However, Zr

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would not be included in the composition listed above. Kaneko ('968) discloses that the M in the formula  $(R_{1-x}L_x)(Ni_{1-y}M_y)_z$  stands for Co, Al, Mn, Fe, Cu, Zr, Ti, Mo, Si, V, Cr, Nb, Hf, Ta, W, B, C, or mixtures thereof (col. 3, lines 28-48). Therefore, it would be expected that any amount of Zr may be substituted for any amount of Fe, Co, or Mn. See MPEP 2144.06.

In regards to claims 6-8 and 18-20, Kaneko ('968) discloses wherein the hydrogen absorbing alloy would further comprise Co, Mn, Fe, Cu, Mo, Si, V, Cr, Nb, Ta, and B (col. 3, lines 28-48)

In regards to claims 9-12 and 21-24, Kaneko ('968) discloses a hydrogen absorbing alloy that would be used in a battery wherein the hydrogen absorbing alloy would have an average particle size of 80  $\mu\text{m}$  (Example 1) and the particle sizes would be in the range of 20-100 (col. 9, lines 1-17), which overlaps the claimed average particle diameter of 65-200  $\mu\text{m}$ , which is a prima facie case of obviousness. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the claimed average particle size from the particle size disclosed by Kaneko ('968) because Kaneko ('968) discloses the same utility (hydrogen absorbing alloy) throughout the disclosed range.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US 5,964,968) in view of Newman et al. (5,283,139).

In regards to claim 25, Kaneko ('968) discloses a hydrogen absorbing alloy that would be used in a battery as shown above, but Kaneko ('968) does

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not specify wherein the amount of alkaline electrolyte would be 0.31 ml or less per gram of the hydrogen absorbing alloy.

Newman et al. ('139) disclose, in the same field of endeavor, wherein a reducing the amount of electrolyte in a battery would effectively increase the density and this increase in density would yield a higher battery discharge and increase overall cell performance (col. 3, lines 7-68).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to reduce the electrolyte volume, as disclosed by Newman et al. ('139), when using a hydrogen absorbing alloy in a battery, as disclosed by Kaneko ('968), in order to effect a higher battery discharge and increase overall cell performance because increasing the effective density (by reducing the electrolyte) would be a result-effective variable in achieving a desired battery discharge, as disclosed by Newman et al. ('139) (col. 3, lines 7-68). See MPEP 2144.05 II.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Randell (US 6,936,378) (see specifically col. 1, lines 31-38).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP §706.07(a). Applicant is reminded of the extension of time policy as

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set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessee Roe whose telephone number is (571) 272-5938. The examiner can normally be reached on Monday-Friday 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JR



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